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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,870	04/13/2004	Masaakira Horino	042303	2659

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EXAMINER
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YU, GINA C

ART UNIT	PAPER NUMBER
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1617

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/822,870	<b>Applicant(s)</b> HORINO ET AL.	
	<b>Examiner</b> Gina C. Yu	<b>Art Unit</b> 1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____                                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/13/04, 05/19/04, 12/05/05</u>                               | 6) <input type="checkbox"/> Other: ____                           |

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**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 1-8, 10, 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horino (US 2002/0031534 A1).**

Horino teaches a powder comprising a base substance usable as a powder for cosmetics, a layer of hydroxyapatite coated on the surface of the substance and a zinc oxide, which is fixed on the hydroxyapatite coating layer. See abstract. The amount of hydroxyapatite used for coating is 2-50 %, while

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the amount of zinc oxide is approximately 2-8 % by weight of the powder. See [0049] and [0069]; instant claim

Horino also teaches the base substance of the powder in [0040], meeting instant claim 4. The shape and size of the base substance are also described in [0041-0042]. See instant claims 7 and 10. The reference also teaches the thickness of hydroxyapatite layer is 0.05-4 microns, meeting instant claim 8. See [0049]. The reference also teaches that either low crystalline zinc oxide having crystalline size not larger than 1000 Å or amorphous zinc oxide is used. See [0050-0064]; instant claims 5, 6, 10. Since both prior art and the present invention use the zinc oxide of same type (low crystalline and amorphous, with overlapping mean particle size), it is viewed that the prior art zinc oxide has the specific surface area within the obvious range of the limitation of instant claim 12.

Horino also teaches that the powder is added to cosmetic composition for a sebum-adsorbent agent or a body deodorant in 0.01-50 wt % of the total composition. See [0074-0081]; instant claims 13-16.

The difference between the prior art and the present invention is in the weight amount of zinc oxide based on the total weight of the powder. While the prior art teaches using 2-8 wt %, the present claim 1 requires minimum of 10 wt %. Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." See In re

Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In this case, the prior art teaches using zinc oxide in the amount of approximately 8 % by weight, while the present claim require minimum of 10 % by weight. Examiner takes the position that the difference of zinc oxide concentration as in this case is obvious because the skilled artisan would have been motivated to adjust the amount of zinc oxide to find a workable weight amount for sebum absorbance by routine experimentation.

**Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horino as applied to claims 1-8, 10, 12-16 as above, and further in view of Mansouri (US 6,579,516 B1).**

Horino fails to teach hydroxyapatite that is comprised of spicular particle.

Mansouri teaches spherical porous hydroxyapatite particles which are manufactured by the agglomeration of small crystals (0.05-0.1 microns in size). See col. 5, lines 17 – 24. The size of the hydroxyapatite particles is in the range of 2-5 microns. The reference teaches that hydroxyapatite spheres act as sponge to absorb, carry, and subsequently release components of the composition with which is has been formulated.

Although the reference does not specifically refer the shape of these small crystals as “spicular”, examiner views that the there is no patentable distinction between the hydroxyapatite particles in the prior art and the present invention since the small crystals of hydroxyapatite there also forms porous, sponge type particles, and the size of the small crystal meets the length limitation of the spicular particle in the present claim. Furthermore, both hydroxyapatite in the

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prior art and the present invention are directed to application in cosmetic art, thus examiner views it reasonable to conclude that the prior art hydroxyapatite particles are same or similar to the hydroxyapatite particles that is used in the present invention.

It would have been obvious to one of ordinary skill in the art at the time of the present invention to modify the teachings of Horino and use the sponge-like hydroxyapatite particles made of small crystals, as motivated by Mansouri, because 1) both references are directed to using hydroxyapatite particles in cosmetics for absorbing property; and 2) Mansouri teaches that, the hydroxyapatite particles have absorption enhancing properties due to the porous shape of the particle. The skilled artisan would have had a reasonable expectation of successfully producing composite materials with enhanced absorption properties by using the sponge-like hydroxyapatite particles of Mansouri to coat the particles of Horino.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

**Claims 1-8, 10, and 12-16 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. US 6730309 B2.**

Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims are directed to powder having a base substrate, a layer of hydroxyapatite directed only the base substrate, and a layer of zinc oxide which exists directly on the surface of said layer of hydroxyapatite, wherein hydroxyapatite is 2-50 % by weight and zinc oxide is in 2-8 % by weight of the powder. See '309, claims 1 and 9.

The claims of the '309 patent also recites the type and size of the core substance and zinc oxide, which meet instant claims 4-7 and 10. See '309, claims 4-8. It is viewed that the specific surface area of the prior art zinc oxide is obviously within the claimed range in instant claim 12, since '309 and the present invention use same type of zinc oxide. The coating layer of hydroxyapatite is defined in the specification as a layer having thickness of 0.05-4 microns. See col. 7, lines 9 – 13.

While present claim 1 requires at least 10% by weight of zinc oxide, examiner takes the position that the difference of zinc oxide concentration as in

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this case is obvious because the skilled artisan would have been motivated to adjust the amount of zinc oxide to find a workable weight amount for sebum absorbance by routine experimentation.

**Claims 9 and 11 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. US 6730309 B2 as applied to claims 1-8, 10, 12-16 as above, and further in view of Mansouri.**

'309 fails to teach hydroxyapatite that is comprised of spicular particles.

Mansouri, as discussed above, teaches spherical porous hydroxyapatite particles which are manufactured by the agglomeration of small crystals (0.05-0.1 microns in size). See col. 5, lines 17 – 24. The size of the hydroxyapatite particles is in the range of 2-5 microns. The reference teaches that hydroxyapatite spheres act as sponge to absorb, carry, and subsequently release components of the composition with which is has been formulated.

Although the reference does not specifically refer the shape of these small crystals as "spicular", examiner views that the there is no patentable distinction between the hydroxyapatite particles in the prior art and the present invention since the small crystals of hydroxyapatite there also forms porous, sponge type particles, and the size of the small crystal meets the length limitation of the spicular particle in the present claim. Furthermore, both hydroxyapatite in the prior art and the present invention are directed to application in cosmetic art, thus examiner views it reasonable to conclude that the prior art hydroxyapatite



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particles are same or similar to the hydroxyapatite particles that is used in the present invention.

It would have been obvious to one of ordinary skill in the art at the time of the present invention to modify the claimed particle of Horino and use the sponge-like hydroxyapatite particles to coat the base particle, as motivated by Mansouri, because 1) both inventions are directed to using absorbing property of hydroxyapatite particles; and 2) Mansouri teaches that, the hydroxyapatite particles have absorption enhancing properties due to the porous shape of the particle. The skilled artisan would have had a reasonable expectation of successfully producing composite materials with enhanced absorption properties.

### ***Conclusion***

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gina C. Yu whose telephone number is 571-272-8605. The examiner can normally be reached on Monday through Friday, from 8:00AM until 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Gina Yu  
Patent Examiner

9/30/06